

bulkheads & SHORELINE PERMITS

www.govlink.org/watersheds/8/action/greenshorelines/



Bottom line

Bulkheads, rock walls and other hardened shorelines can protect property from erosion. They also disrupt the natural movement of water and sand along the lakeshore. Hardened shorelines tend to have little or no shoreline vegetation. They create an unfriendly environment for fish, birds and other wildlife, including endangered Chinook salmon.

Removing or setting back a bulkhead provides a homeowner with a beach for easier water access and a more attractive shoreline landscape, while improving fish habitat.

The requirements

The state Shoreline Management Act allows "structural and non-structural" protection, such as bulkheads, at existing single-family homes, if the protection "is installed at or near the ordinary high water mark" for the sole purpose of protecting the home "from loss or damage by erosion."

As local governments update their Shoreline Master Programs, many are encouraging homeowners to use alternatives to bulkheads to protect their shoreline from erosion. Some provide incentives such as easier permitting or a smaller setback of the house from the water.

Three reasons bulkheads on lakes matter

Reason #1. Small fish need shallow water.

Juvenile salmon travel through Lake Washington and Lake Sammamish to reach the ocean. Shallow water provides refuge from predators. Waves hit a bulkhead's hard walls with greater force than at a beach. This results in scouring and deeper water at the shoreline.

Reason #2. Small fish need gravel and sand to feed.

Young salmon find more food sources among gravel, sand and small rocks than among larger rocks. As waves bounce back from bulkheads, they carry away sand and gravel that young salmon depend on.

Reason #3. Small fish need overhanging vegetation.

Plants that hang over the water help young salmon hide from predators. They are also a food source, as insects fall off leaves and branches into the water. Most hardened shorelines have little shoreline vegetation. They often create a barrier that isolates upland vegetation from providing leaves and insects to fish in shallow water.



Bulkheads are vertical walls built of concrete, metal, wood or rocks to protect property against erosion.



The roots of native trees and plants create a fibrous web that anchors the shoreline and helps prevent erosion. They thrive with little care and are naturally drought-resistant.



There are many options for a green shoreline, depending on the size, shape and slope of your property.

Photos provided by Darwin Webb



Photo provided by The Watershed Company



Waves hit a bulkhead's vertical wall with more force, causing erosion below the water line.

It adds up

More than 70 percent of the shoreline on lakes Washington and Sammamish is lined with bulkheads. On Puget Sound, 90 percent of the shoreline from Everett to Tacoma has bulkheads. Elsewhere in Puget Sound, it's closer to 25 percent.

Reducing bulkhead impacts

- **Remove all or part of your bulkhead, or set it back away from the water.** Modern bioengineering can safely protect your property from erosion without using a hard, vertical wall.
- **Add a beach or beach cove.** This provides you with easier, safer access to the water and a beach area for relaxation and entertaining. It also provides shallow water habitat for fish.
- **Plant vegetation along part of your shoreline.** Shoreline plantings provide seasonal color and variety, and may enhance your water view by framing it. Native plants are preferred. You can mix in other ornamental plants for color and variety.

For more information

Visit www.govlink.org/watersheds/8/action/greenshorelines/ to explore options for your shoreline or to request a copy of the City of Seattle's guidebook, *Green Shorelines: Bulkhead Alternatives for a Healthier Lake Washington*.



Lake Washington/Cedar/Sammamish Watershed (WRIA 8)

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